

U.S. Patent Application Serial No. 10/649,744
Amendment filed March 14, 2007
Reply to OA dated December 15, 2006

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (Original): A limiting current type oxygen sensor comprising:

a patterned cathode layer;

a patterned anode layer;

a patterned solid electrolyte layer disposed in between one surface of the cathode layer and the anode layer;

a patterned gas barrier film; and

a plane porous diffusion layer for controlling gaseous diffusion rate disposed on the other surface of the cathode layer,

wherein said cathode layer has a bonding pad portion for connecting electrically with an external lead wire, a part of the bonding pad is covered with the patterned solid electrolyte layer, and the other part of the bonding pad is exposed to an atmosphere of the sensor,

wherein said patterned gas barrier film is disposed in between the bonding pad and the patterned solid electrolyte layer at a boundary between the part of the bonding pad being in contact with the patterned solid electrolyte layer and the other part of the bonding pad exposed to the atmosphere, and surroundings thereof.

Claim 2. (Currently Amended): A limiting current type oxygen sensor comprising:

a patterned cathode layer;

a patterned anode layer;

a patterned solid electrolyte layer disposed in between one surface of the cathode layer and the anode layer;

a patterned gas barrier film; and

a plane porous diffusion layer for controlling gaseous diffusion rate disposed on the other surface of the cathode layer,

wherein said cathode layer has a bonding pad portion for connecting electrically with an external lead wire, a part of the bonding pad is covered with the solid electrolyte layer, and the other part of the bonding pad is exposed to an atmosphere of the sensor,

wherein said patterned gas barrier film is disposed on the exterior surface of the bonding pad and on the exterior surface of the patterned solid electrolyte layer at a boundary between the part of the bonding pad being in contact with the patterned solid electrolyte layer and the other part of the bonding pad exposed to the atmosphere, and at surroundings thereof are covered with said patterned gas barrier film of said boundary.